Amendments to Claims

This listing of claims replaces all previous claims.

Claims 1-40 (Canceled)

41. (Currently Amended) A synthetic multimeric biopolymer comprising a plurality of monomeric units chosen from proteins, polypeptides, and combinations thereof;

wherein a plurality of said monomeric units in said biopolymer comprise a binding region for an analyte chosen from a sugar, a protein, a peptide, a nucleic acid, a hormone, a vitamin, a co-factor, an anion, and a cation,

wherein the monomeric units that comprise a binding region for an analyte are covalently linked to each other;

wherein each of the covalently linked monomeric units that comprise a binding region for an analyte generates a signal when the analyte is bound thereto; ~~and~~

wherein the signal generated by the covalently linked monomeric units that comprise a binding region for an analyte when the analyte is bound thereto is greater than the signal generated by the monomeric units that comprise a binding region for an analyte not covalently linked to each other when the analyte is bound thereto; and

wherein the biopolymer comprises a calmodulin dimer.

Claims 42-59 (Canceled)

60. (Previously Presented) The multimeric biopolymer according to claim 41, wherein the biopolymer comprises an enzyme that catalyzes a biochemical reaction, which results in the formation of protons or hydroxide ions when said enzyme binds to the analyte.

61. (Previously Presented) The multimeric biopolymer according to claim 41, wherein the biopolymer comprises (a) a protein or polypeptide that changes its three-dimensional conformation in response to binding of a proton or a hydroxide to the binding region, and

(b) a protein or polypeptide that catalyzes a biochemical reaction which results in the formation of protons or hydroxide ions when said protein or said polypeptide binds to said analyte.

62. (Previously Presented) The multimeric biopolymer according to claim 41, wherein the biopolymer comprises from about 2 to about 10 monomeric units.